

THE
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GENERAL REVIEWS AND SUMMARIES

THE RECENT LITERATURE OF MENTAL CLASSES

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The classification of men according to their mental traits is directed by numerous interests. Foremost at the present time is the practical interest of which the slogan is efficiency. Münsterberg (46) continues to herald the opportunity of the psychologist to help in the choosing of a vocation by establishing a proper classification of individuals according to their talents. Differences with regard to attention, memory, apperception, span of attention, fatiguability, time sense, mental rhythm, correspond to the definite requirements of different occupations. The intimate relation between this movement for a practical classification of talents with a view to economy and the broader movement for the more efficient management of all resources is noted. Zergiebel's paper (58) is also typical of the practical point of view. Instead of regarding the variety of individual ability or gift as itself material for the exercise of psychological curiosity, it regards the possibility of usefully applying the various gifts and of compensating for the deficiencies. In the case of the elementary teacher who must teach a variety of subjects for which he has no personal aptitude, study of his own idiosyncracies of imagery, learning type, and type of observation, is of the first importance. For Chambers (8) the practical recognition of individual differences of mental make-up should entail in education "not so much the presentation of different subject-matter to different pupils as the affording of opportunity for individual reactions to the same subject-matter." Jones (30) finds that there is the necessity in democratic society of determining temperaments in order to avoid

misfits. He considers temperament as the total manner of reacting upon the situation, and follows Ribot in discriminating four types, active, sensitive, apathetic, and unstable or nervous. Many men of genius are cited who display neurotic traits or have a neurotic family history. Huther (26) is concerned with the modern demand that the schools fit people for performing such functions in life as they are naturally fitted for. This ideal is not in perfect accord with the chronic attempts of the schools to round out the character by giving greatest attention to the child's weak points.

A somewhat different practical application of the notion of mental classes is seen in the working out by Healy and Fernald (21) of a set of tests, to be applied to delinquent youths, which make possible a system of mental *classification* as distinguished from a system of *grading* applicable to individuals of the same intellectual age. The authors find it feasible to distinguish, aside from the subnormal cases, three grades of native ability, three grades of formal educational advantages, and two grades of information, with classes corresponding to the combinations of these grades. De Sanctis (13) points the way to the gap which Healy and Fernald have already so successfully closed when he says that tests of elementary mental functions, sensation, attention, memory, do not measure the general level of intelligence. The Ebbinghaus completion method and the Binet description of an object he approves of. His own "measuring scale" is intended primarily for measuring amounts of mental deficiency. The Binet scale he finds satisfactory for grading normal and slightly atypical children. Bell (3) cites a number of new contributions to the literature of "tests" which lie somewhat beyond the province of the present paper.

A like interest in sorting men into round and square according to the holes which they are to fill is to be seen in most of the work dealing with the correlation of traits and the fundamental question whether ability in the individual manifests itself generally or whether it appears in streaks. The clearest statement of this thought is found in the paper by Hart and Spearman (20). They find very strong evidence for the existence of a "general factor" which remains a constant through all the phases of the mental life of an individual. They conceive of the establishment of an "intellectual index" for all school children and eventually for the entire population. Class distinctions in society on a purely psychological basis become a remote possibility with the notion of a minimum intellectual index as a qualification for voting and for the privilege of having children. The

argument for the existence of the "general factor" is based in the first place on a correlation of correlations covering all of the available studies in the correlation of mental traits for the past thirty years, the results of the work of 14 experimenters on 1,463 persons. A table is arranged in the form of a square, showing the coefficient of correlation of each trait with each other trait. Then these coefficients are themselves correlated. For example the coefficients in which "memory" figures are correlated with the coefficients in which "touch" appears. If the various traits correlating more or less closely with memory and with touch are independent of each other, then no correlation of correlations will appear. If the various traits belong to different "levels" or mutually exclusive "types," as is generally held, there will be a negative correlation of correlations. If the various traits are all related to one another on the basis of a common factor, the correlation of correlations will be positive and high; and this is what proves to be almost invariably true. A second argument for the general factor is found in the working applicability of the modern mental "tests" which do not attempt to measure special abilities but are haphazard samplings the results of which are pooled together into a general estimate of mental standing. Specific abilities are not, however, lost sight of. "Every intellectual performance may be regarded as springing from two distinct factors: on the one hand the specific ability or disposition for that particular performance; and on the other general ability, due to the common fund of intellectual energy." A good example of the maxim that anything can be proved by figures is found in the original presentation by Brown (5) of an important part of the data on which Hart and Spearman found their contention for "general ability." Brown finds in the very low correlations between his different tests (which were numerous and varied and participated in by six distinct groups of students) no indication of a general factor underlying the separate functions measured. It is not possible to discuss here the relative merits of the methods employed by Brown and by Spearman (20) or the criticisms of the latter on Brown's methods. In the case of schoolboys' ability in arithmetic, geometry and algebra, Brown (4) also finds the correlations low except as between arithmetic and algebra. Lobsien (39) with one class of boys between 12 and 15 years of age finds high correlations between all the school subjects. When the record in a formal memory test is correlated with students' grades in separate subjects rather than their class standing Busemann (6) finds positive results. Lobsien (38), on the other hand, finds all the

correlations low between auditory or visual memory for numbers and mental or written arithmetic. The only appreciable positive correlation is between mental and written work. It is a curious reflection which is cast on this work by Huther (27) who, without any criticism on the manner or method of Lobsien's experiments, concludes on the basis of purely abstract deductive reasoning that there can be no connection between visual memory and mental calculation and therefore that a slight negative correlation which Lobsien found between these functions merely means the *absence* of connection. Surely, he thinks, there are visual-concrete and auditory-abstract types in calculating and these are to be regarded as "specific differences of endowment."

The question of special types of ability *vs.* general ability comes up again under the guise of formal training, *i. e.*, training through general ability or through the interconnection of special abilities. De Sanctis (13) says that experimental psychology can as yet throw no light on the training of general intelligence. Winch (57) attains a golden mean with the doctrine that there may be an improvement in one faculty as the result of training another, although there may not be any correlation between the faculties. Johnny, who has a good rote memory, may have a very poor associative memory (lack of correlation) but yet training of his rote memory may improve his associative memory (formal training). Thus the ground is cut out from under one of the chief arguments in favor of a general mental ability through which the different faculties are connected with one another. Elsenhans (14) sees that the so-called simple traits can only be arrived at from the more complex traits of actual mature experience, and that those complex traits are more than mere bundles of simple traits. His paper is typical of the absorbing interest in individual capacities, their origin and interrelationship, which dominates the first volumes of the combination of the *Zeitschrift für pädagogische Psychologie* with the *Zeitschrift für experimentelle Pädagogik*.

The discussion by Stern, Ephrussi, and others of Exner's (15) paper at the fourth *Kongress für experimentelle Psychologie* shows again the growing interest in the inheritance of human characters and the necessity of determining *what a character is* before we can discuss its inheritance intelligently. Josefovici (31) maintains that the inheritance of talents and character is possible either from both parents to the same child or from one parent only. Sisson (51) throws the emphasis upon innate tendencies by pleading for their

cultivation and redirection, abandoning the hope of reforming character by the imposition of entirely new habits. Reid (47) and Walker (52) discuss back and forth their disagreements over Pearson's logic by which he seems to say that human qualities are *bred not cultivated*, when he is only warranted in saying that they are bred *and* cultivated. Feis (16) shows that most musicians have sprung from musical families, but he fails utterly to distinguish their blood inheritance from their social inheritance,—true inheritance from the influence of favorable surroundings. Huther (25) attempts in a purely theoretical way to disentangle the factors entering into "native talent" and to discover which of these factors is capable of cultivation.

With regard to the modification of mental classifications as the result of practice Whitley (56) concludes, after practicing different persons upon different tests of individual capacity, that "the criticism that practice may influence individuals each according to a law of his own, and processes each by a law of its own, does not seem to hold so far as the general law of improvement goes." On the other hand Wells (54) finds that practice in the Kraepelin addition test and in a number-checking test reveals: (1) a difference in the individuals' fundamental plasticity in the function; (2) a difference in the actual amount of practice *experienced*; (3) constitutional factors in the nervous system independent of plasticity. Furthermore, both efficiency and plasticity are specific in the test, *i. e.*, different in the same individual from one test to another. Wells (53) also reports that the "type" as well as the speed of free associations is amenable to practice.

The development of *methods* for the determination of mental types occupies the attention of several workers. The report of Angell (2) to the American Psychological Association gives a catalog of twenty tests in current use for the determination of mental imagery with recommendations concerning the more suitable of them and with the warning that "types" do not follow the lines conventionally laid down, and that it is more difficult to establish the facts regarding them than is commonly supposed. The new methods devised by Healy and Fernald (21) have already been mentioned. Whitley (56) has made an experimental study of 45 tests of individual differences by correlating the results of the several tests with one another. There is also an historical review and general catalog of such tests. Her exceedingly guarded conclusions leave some doubt as to the practical value of the tests. Wharton's (55) tests of the imagery of school children by ten widely used methods yield such contradictory data

that he questions the validity of any method of determining the image type of children. Meumann (44) presents a new method for measuring the mental ability of children, which consists in giving two words from which a sentence is to be constructed; *e. g.*, "soldier—fatherland." More or less logical sentences result. A modified form of the Ebbinghaus completion test is also described, in which the subject fills out the body of a story from certain key words. These tests give both qualitative types of intelligence and gradations of ability. Meumann distinguishes eight "types" of intelligence of which the first four give senseless sentences. The remaining four types are characterized as follows: the fifth by uncontrolled fantasy; the sixth by merely logical connection without ornament; the seventh by emotionally toned imagination; the eighth by logical connections plus imaginative detail. Furthermore he distinguishes two main classes of those who comprehend and stick to the task and those who do not, independent of the typical differences of gift in feeling, reasoning and imagination. The data from the new tests correlate poorly with class standing. He suggests modifications of these tests in the direction of greater explicitness in the task. A somewhat similar method of determining the type of imagination is reported by Fischer (18). Children are allowed to construct quasioriginal parallels to familiar jingles like the "House that Jack built." The retention of rhythm, sense-content, etc., gives an indication of the child's mental type. Lipmann (36) presents a program of tests for the use of anthropologists.

Marbe's method of immediate systematic introspection is applied by Feuchtwanger (17) to the determination of mental types. The type for him is determined by the frequency of the ideas belonging to the different sense realms rather than by their vividness. The chief experimental controls used were listening to words, letters, syllables and sentences read out to the subject, and copying words, letters, etc., by the subject. Stimulation of any sense did not affect the type in such a way as to reduce the frequency of ideas belonging to that sense. A special lookout for a rare form of image did not increase the frequency of images of that kind. The "type" is connected with ability to call up voluntarily images of its own kind. Feuchtwanger also describes a new indirect method which consists in writing lists of words (Kraepelin) for objects of a certain height or color, or containing a certain vowel sound. In this case the subject has to *think* for each word. Also, the word-type is automatically separated from the object-type. The results of this indirect method agree perfectly

with the classification by the direct method of the four subjects employed.

The more fundamental methods of determining intellectual status are enumerated by Meumann (42) as follows: (1) psychiatric; (2) the distinction between normal and abnormal; (3) the determining of normal types and individual capacities; (4) determination of standards of mental ability for normal children of different ages. All tests must be *functional*, not merely measures of the amount of acquisition; and they must be as nearly tests of *general* intelligence as may be. Little is said under division three, but prominence is given to methods of correlation. Margis (41) classifies the general methods of another basis into: (1) the method of intuitive description, including the observation of physiognomy, hand-writing, etc., and also including the use of anecdotes; (2) the method of classification into established "types" of character, later development of the doctrine of temperaments; (3) the telegraphic method,—a description of the inner calling of a man, his specific gift; (4) the analytic, scientific, or psychological method, which is not a different method but a superior way of carrying on the work of all the other methods. An account is given of the record and program in this direction of the *Institut für angewandte Psychologie*.

More "psychographies" (Stern) and more and better questionnaires in the study of mental classes are urged by Heymans (22). He himself has read 110 biographies and found a high correlation involving such traits as mendacity,—seventy per cent. of the non-active emotional type proving liars, while none of the non-emotional active type were liars. He also digested the answers to questionnaires covering the family history of 2,523 persons in 458 families and found similar correlations of traits.

Alongside of the newer practical interest in mental classes as the basis of efficient utilization of human energy there still persists the interest, which may be called classical, in the variety of human endowment and faculty simply as an array of curious phenomena. Purely psychological description still delights in the pageant of men's differences in sensitivity, in imagery, in will, memory, and manner of forming associations. Various types of school children are reported on by Münch (45). Some individuals can be classified at once; some only after they have had time to become adapted to new surroundings. Some are naturally industrious and averse to diversions. Some types are indicated in play-activities. Surprising extremes of ability are found by Chambers (8) among children. No trait is

distributed in a normal curve. Among students Jones (29) finds that the learning types are so pronounced that presentation of material in only one sense-form works a material hardship on a considerable part of the class.

Some of the peculiarities of the contents of the visual space of the imagination, particularly in mathematical thinking, are described by Keyser (33). A census of images representing the concept "meaning" was taken by Chapin and Washburn (9) in a class of college women. Of 193 "good introspections" there were 50 per cent. reporting visual images, 37 per cent. wholly kinesthetic, and 13 per cent. visual and kinesthetic combined. Nearly all of the images, particularly the kinesthetic ones, were obviously relevant to the concept.

Typical differences in the manner of forming associations in reacting to a simple question are reported by Levy-Suhl (35) for the insane under the following heads: (1) Natural reaction; (2) generally indifferent hyperprosexia; (3) selective hyperprosexia; (4) hyper-vigile reactions. Wells (53) provides a useful glossary of his own and Jung's names for types of reaction in association. Dauber (12) reports on experiments in which numerous persons react with the same word to a given cue. In the case of nonsense syllables there were certain typical preferences. Out of 31 persons 12 tended to react by rhyme, 4 by alliteration, 8 by annexing a suffix to the cue, 2 by repetition. Huber (24) performed a similar experiment among fresh recruits and old soldiers and came to the conclusion that a large allowance must be made for the surroundings of the subjects and the differences in their training.

Scott (48) finds that "suggestibility" is not a single trait. Two different tests of suggestibility fail to correlate with each other.

With regard to attention McComas (40) finds that there are two large types with respect to span: broad and narrow. Those persons with a broad visual span have also a broad auditory span. There is also an alert as opposed to a sluggish type. The ability to concentrate, or inhibit, or to dexterously manage the attention does not take the form of a "type."

Lipmann (37) insists that there is not a visual type, but that color-tone, brightness, saturation, size, position, each has a special type of imagery. Experiments in the recognition of geometrical forms of various sizes, variously colored, agreed closely with introspections. Three hundred school girls who were tested tended to employ the same partial visual imagery on a second trial.

A peculiar special trait, fertility of expression, or the ability to produce an elaborate and detailed representation of an object, is found by Cohn and Dieffenbacher (11) to reveal itself consistently in tests involving description, testimony, written composition and drawing.

Meumann (43) introduces an entirely new basis of mental classification in his combination factor. Certain persons can employ certain forms of imagery successfully alone but not in combination, *i. e.*, in thinking. A case is analyzed in which there is excellent visual and excellent auditory-motor imagery and memory but great difficulty in forming associations between the two classes of objects. A map can be visualized and a list of names easily learned by rote but there is difficulty in locating a name on the map.

The concept of character and types of character is considered from the theoretical standpoint and in relation to will and feeling by Klages (34), Ach (1), Selz (49, 50) and Kerschensteiner (32).

The musician as a special type is analyzed by Feis (16). Musical genius shows itself precociously as either: (1) appreciation of rhythm; (2) creative ability (in a few); (3) the ability to reproduce a piece (tone memory). Most musicians have an abundance of other talents, but none of the great composers had ability as a teacher; a fact which must be consoling to many teachers of music. Musicians are industrious. Although musical geniuses show many stigmata of nervous disease Feis does not agree with Lombroso concerning the relation between genius (in the case of musical genius) and degeneration and epilepsy. Hinrichsen (23) thinks that no one will deny that there are types of disposition for poets, musicians, painters and mathematicians as well as for criminals. He analyzes the poetic disposition in the autobiographical and anecdotal manner, concluding that the poet's state of mind is like that of the ordinary dreamer; poetic fancy is not allied to hallucination. The poet is not necessarily (though he is frequently) neurotic any more than any other intellectually productive person.

Numerous facts regarding the man of science are presented by Cattell (7), particularly with respect to his precocity and the kind of community from which he springs and in which he is nurtured.

That sex establishes two distinct mental classes in the community is the assumption upon which Glaser (19) bases a feminist plea. The assumption is prominent in the elaborate experiments of Cohn and Dieffenbacher (10, 11), but their data and conclusions do not furnish a very strong argument for mental differences between boys and girls

when allowance is made for the relative precocity of the girls. It is significant that when one sex excels the other in any respect the best scholars of the inferior sex partake of the excellence of the other sex.

Every phase of the subject of mental classes is touched upon in Jastrow's essay (28). So much material has been so finely minced and presented in so well digested a form that no summary can do justice to it, but its chief tendency is to throw the emphasis upon inheritance rather than attainment and particularly to call attention to differences of endowment in sensibility and in creative ability. "The closer inspection, through the analytical glasses of psychology, of the differentiating varieties of human quality and of their functional interplay, falls outside the range of this survey." The author's endeavor is rather to cultivate a truer social appreciation of those qualities which make their appearance among men, and particularly of those qualities which make it possible for their unfortunate possessors to render distinguished service to mankind. The essay epitomizes the current attitude in psychological thought toward individual talent, special endowment, general ability, and mental classification; but it is an essay, it does not argue nor does it hark back to authority.

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FOLK-PSYCHOLOGY

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Folk-psychology has not yet reached the happy condition of "the ship that found herself." Its scope, its method, are matters of dispute, its *raison d'être* even is in some quarters accepted with hesitation. It would hardly be profitable to discuss here the methodological and terminological questions involved; some of the more important issues, however, will be incidentally touched on in the course of this review.

Thurnwald (12) observes that in primitive conditions there can be no question of formal legal categories; savage law is simply savage custom looked at from a certain point of view. It follows that we cannot make use of our own legal abstractions in describing the legal forms of primitive folk. He further notes that savages do not always live up to their reputation as good observers; the people of Buin (Bougainville, Melanesia), for instance, are unaware of the connection between the caterpillar and the butterfly. The inhabitants of the Gazelle Peninsula assert that children found in the bush are the fruit of a liana. Thus we need not wonder at the ignorance of some peoples with reference to the processes of sexual conception; an ignorance which results in multiform whimsical beliefs as to the relations between man and plants and animals. Thurnwald's remarks about blood revenge in Melanesia are interesting. The avenger may meet his victim in open combat or he may suddenly attack him from ambush. Nor is it necessary for the act of vengeance to occur at once or within a defined period. If the offender is strong and powerful, well protected and hard to get at, vengeance may be postponed for months and years; but sooner or later the fatal blow will fall.

Kroeber (7) points out that the still current belief that conduct may be determined by ideas or reason is a delusion. The opposition also to some actions, as cannibalism, incest, lack of parental or filial devotion, "is so thoroughly instinctive that these crimes have hardly had to be dealt with by most people, and their rarity and want of infectiousness are recognized in the failure of creeds and codes to provide against them." While the horror of incest, pollution, etc., is common to all people, the ideas as to what constitutes incest or pollution vary greatly from place to place and from time to time.

Stumpf (10) criticizes Darwin's theory of the origin of music from

song; Spencer's theory of its origin from emotional speech; Wal-laschek's, from dancing; Bücher's, from communal labor. Music, for Stumpf, is characterized by definitely fixed but transposable intervals. The origin of music he finds in vocal signs at a distance. Thus certain sounds became fixed in pitch and were sustained longer than in ordinary speech. Later, intervals, beginning probably with the octave, arose. Religious motives may have coöperated in the early development of music. Stumpf gives valuable bibliographic references and a collection of primitive songs and tunes.¹

Thurnwald attempts to characterize the mental atmosphere (*Denkart*) reflected in totemism (II). He also emphasizes the social aspect of that institution. "Der Totemismus ist eine sociologische Theorie, die auf einer bestimmten Naturauffassung von den Existenzbedingungen des Menschen basiert ist." And again, "Von Totemismus aber sollte man nur dann reden, wenn Anzeichen vorhanden sind, die auf eine durch die geschilderte eigenartige Denkart beeinflusste soziale Gestaltung schliessen lassen."

Sapir (9) draws attention to some common elements in all languages, such as a fixed phonetic system and a definite grammatical structure. With reference to older theories of the origin of speech he observes that "we are forced to conclude that the existence of onomatopoetic and exclamatory features is as little correlated with relative primitiveness as we have found the use of gesture to be." The probable origin of phonetic changes is seen in the inexact imitation by children of the pronunciation of elders. Some of the phonetic variants thus produced are imitated by others until either the entire language is changed phonetically or a separate dialect arises. It seems that the time-honored characterization of languages as inflectional, agglutinative, etc., must be set aside. We may speak of derivative elements in language, elements which affect only the form of the word, and of relational elements which, while affecting the form of the word, also affect its relation to other parts of the sentence, which, in consequence, also change. In this connection "it is important to note that, although the distinction between derivational and relational grammatical elements we have made is clearly reflected

¹ The value of music for folk-psychology has only recently been realized, and the number of careful studies on the subject is exceedingly small. Professor Stumpf and his excellent collaborators, Abraham and von Hornbostel, are pioneers in this work. I must here refer to his *Beiträge zur Akustik und Musikwissenschaft* (6), which reached me too late for a more detailed review. Sapir's "Song Recitative in Paiute Mythology" (*J. of Amer. Folk-lore*, 1910, 23, 455-473) should also be consulted for interesting hints as to some specific relations between primitive music and mythology.

in some way or other in most languages, they differ a great deal as to what particular logical concepts are treated as respectively derivational and relational."¹

Rivers (8) insists that in many instances where primitive beliefs contain apparent contradictions, these resolve themselves into perfectly logical sequences if allowance is made for the fact that natural phenomena "have been classified and arranged into categories different from those of ourselves." A case in point is afforded by the Melanesian concepts of life and death, which do not coincide with our own but are expressed by the terms *mate* and *toa*, one including with the dead the very sick and the very aged, while the other excludes from the living those who are called *mate*. Rivers believes that the states "on either side of this condition of *mateness*" are much less different, to the primitive mind, than are for us the states indicated by the terms life and death. Death to the primitive man is a form of existence, and "the difference between the two existences is probably of much the same order to the primitive mind as two stages of his life, say the stages before and after his initiation into manhood."²

Boas (2), in his Clark University lecture, deals with the psychological problems in the study of ethnology. On the one hand the anthropologist seeks to reconstruct the historical development of cultures; on the other hand he is interested in the psychological laws underlying the thought and action of man, in different racial and social groups. On close analysis the "composite pictures" of the mental make-up of different races would probably reveal significant differences. The performance of individuals belonging to a given group may to some extent depend on hereditary individual and racial ability, but in the main it depends on the habitual characteristics of the social group to which the individual belongs. The main difficulty with the comparative method commonly used by ethnologists is the incomparability of the data on which the conclusions are based. "The person, for instance, who slays an enemy in revenge for wrongs

¹ It becomes increasingly apparent that the field of primitive languages will soon prove a treasure-trove to the folk-psychologist. For quite apart from the value of language as a mirror of culture, the classification of experience and the categories of concepts unconsciously expressed in the grammatical structure, vocabulary, and even phonetics, of a language, and which are now being laid bare by the student, promise to reveal to us the sanctum of mental life, the laboratory of thought itself. I commend to the attention of psychologists the *Handbook of American Indian Languages* (Bulletin 40 of the Bureau of Ethnology).

² Lévy-Bruhl has reached much the same conclusion in his *Les Fonctions Mentales des Sociétés Inférieures*. See the present writer's remarks on Rivers and Lévy-Bruhl in *Current Anthropological Literature*, 1912.

done, a youth who kills his father before he gets decrepit in order to enable him to continue a vigorous life in the world to come, a father who kills his child as a sacrifice for the welfare of his people, act from such entirely different motives that psychologically a comparison of their activities does not seem permissible." Thus two phenomena are culturally similar, not when they reveal objective resemblances, but when the underlying psychological processes are similar.¹

The classification of experience underlying the thought of different groups of men is thoroughly different. This classification of experience is not due to any ratiocinative process but occurs unconsciously. The best example of classifications which do not rise into consciousness is offered by the grammatical categories of languages; but it is no less plausible that some of the fundamental concepts of religion as well as of other cultural phenomena, have arisen in the same unconscious way; with the difference that in the latter instances the fundamental concepts, and in part the underlying classifications, tend to rise into consciousness. The subsequent conscious elaboration of the concept leads to secondary explanations, the study of which constitutes a highly important branch of ethnology.

Woodworth (14) examines the same facts from a somewhat different angle. He warns against the hasty assumption of specialized mental traits in different groups. "The circumstances surrounding a group call for certain special abilities and bring to the fore individuals possessing these abilities, leaving in comparative obscurity those gifted in other directions." Woodworth dismisses with little ceremony the oft made assertions that savages are deficient in reasoning powers, that they are incapable of abstraction, of foresight. The difference in these respects between the savage and civilized is only one of degree. The author proceeds to analyze the results of investigations on the senses of savages conducted by Rivers, McDougall and Myers, among the islanders of Torres Straits, and of his own experiments with several primitive groups at the St. Louis Fair in 1904. In the light of these data the sense superiority of the savage is as much of an illusion as his mental inferiority seems to be. Woodworth thus reaches the conclusion that the progress made by a group cannot be conceived as determined solely by its intellectual endowment. "The spur of necessity, the opportunities afforded by leisure, the existing stock of knowledge and inventions, and the factor of apparent accident or luck have all to be considered."

¹ Boas has emphasized this point of view in several previous publications as well as in his recent *The Mind of Primitive Man*. (See special review on p. 404.)

Graebner (5) lays down the principles of the science of ethnology and the method of ethnological inquiry. We are particularly concerned with pp. 62-124 of his work. He starts out with the proposition that two cultural phenomena possess the greatest mutual interpretative value if they belong to the same cultural complex. If then we want to interpret culture we must reconstruct the cultural complexes that have developed, spread and fused in the course of the historic process. This is the main aim of ethnology. The geographical separation of cultural areas complicates our investigations, but it should not in principle affect our attitude towards cultural similarities. As independent development of similarities in culture is rare and convergent, evolution is to a large extent an imaginary process; such cultural similarities, however distant geographically, must be interpreted as due to historic contact, and, in the last analysis, to genetic relationship. The actually existing cultures which confront the ethnologist are valuable to Graebner only in so far as they constitute the points of departure for his cultural reconstructions. Needless to say, all intensive analysis of the interplay of psychic forces in any given cultural area does not, for Graebner, fall within the scope of the ethnologist's task. There is no more room for the soul in Graebner's system than there was for God in the universe of Laplace.¹

We must pass by without comment Ankermann (1) who is a more cautious representative of the "historical" school of ethnology, and Foy (4) whose position is even more extreme than that of Graebner.

Boas (3) characterizes Graebner's system as "mechanical." He sees safe progress in "the patient unravelling of the mental processes that may be observed among primitive and civilized peoples, and that express the actual conditions under which cultural forms develop. When we begin to know these we shall also be able to proceed gradually to more difficult problems of the cultural relations between isolated areas that exhibit peculiar similarities." The

¹The full significance of Graebner's methods as well as their bearings on the problems of folk-psychology cannot be fully appreciated without acquaintance with his concrete investigations. See particularly his "Die Melanesische Bogenkultur" (*Anthropos*, 1909), "Die Wanderungen sozialer Systeme in Australien" (*Globus*, 1906), and "Die sozialen Systeme der Südsee" (*Zsch. f. Socialwissenschaft*, 1908). Also Graebner's and Foy's discussion with Haberlandt in *Petermann's Mitteilungen*, March and May, 1911. Dixon meets Graebner on his own ground in "The Independence of the Culture of the American Indian" (*Science*, 1912, 35, No. 889). Lowie defends the principle of convergence against Graebner's challenge of its non-existence (*J. of Amer. Folk-lore*, 1912).

significance of cultural phenomena lies in their psychological setting. Against Graebner, Boas maintains "that certain types of changes due to internal forces have been observed everywhere."

Wundt (15) once more formulates his conception of folk-psychology. Although it is true that no psychic process may occur outside an individual consciousness, many processes in the individual mind cannot be properly understood when abstracted from their social context. The metaphysical concept of a soul and the fiction of "laws" must be set aside. The soul is naught but the sum total of psychic experience; the psychic laws are the regularities of that experience. If so much is granted, the ethnic soul (*Volksseele*) becomes as proper a field for psychological investigation as is the individual soul. Particular developmental processes become the subject-matter of folk-psychology only in so far as they contain common elements based on the psychic unity of man, a condition represented by remote social origins. In later stages, as outer and inner social forces increase in particularity, number and variety, the common fundamental psychic motives become obscured and are carried off with the flood of historic conditions. Thus folk-psychology and individual psychology constitute the foundation of history, not *vice versa*. Individual psychology furnishes the clue for the solution of folk-psychological problems; folk-psychology, on the other hand, itself supplies valuable material for individual psychology. Thus linguistic phenomena throw light on the processes of thinking; mythology, on the workings of imagination; custom, on the nature of will.

A number of German psychologists and ethnologists contribute a set of suggestions for the psychological study of primitive peoples. Thurnwald (13) joins Lévy-Bruhl in advocating the necessity of a psychological characterization of ethnic groups.¹

Hayes (6), in a series of articles, champions the psychological view of society. He analyzes the views of Tarde, Spencer, de Greef, Fairbanks, Ross, Giddings. "Society," he defines, "is in essence the interrelated activities of men," and activities are psychic facts, while the connotations of the term "interrelated" are, in this connection, also psychic. Wundt's view as to the relation of individual to social psychology is endorsed. "Individual" psychology is really "general" psychology, for it deals with what is universal in man. "It is sociology that investigates the building up of the content of consciousness which differs at different times and places, the indi-

¹ See special review on p. 400.

vidual's share in which constitutes his individual life, a life composed of activities which have been socially evolved and which by each individual are socially derived. The individual is a concrete, complex, unanalyzed sample of the social reality." In criticizing Giddings, Hayes repudiates the time-honored view of society "as a population of human organisms, under political control, inhabiting a given territory."¹

The narrow limits of this review prevent me from treating this problem of the objective versus the psychic method of studying man and society with the care it deserves. I believe that ethnologists as well as sociologists are divided over the question. We see a somewhat striking example of convergence in thinking in that the psychologist and the professional philosopher also find themselves facing a similar situation. I refer to such works as Thorndike's *Animal Intelligence* (1911), particularly the last two chapters; the introductory chapters of Pillsbury's *The Essentials of Psychology*; the whole of McDougall's *Introduction to Social Psychology*; as well as the discussions at the recent meeting of the American Philosophical Association, in Cambridge. The situation is fascinating and somewhat ominous. Need we fear that the word *Geisteswissenschaften* will reveal itself as a contradiction in terms?

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THE PRIMITIVE RACES IN AMERICA

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The literature relating, specifically, to the psychology of the primitive races in America, during the past two or three years, is exceedingly meager, and indeed in most cases its psychological bearing is rather indirect.

In Part I. of the *Handbook of the American Indian Languages* (1) an attempt is made to bring together material bearing on the morphology and phonetics of the American languages with a view, ultimately, of organizing an analytical grammar. When more material has been collected in subsequent volumes, an attempt will be made to get hold of the phonetic processes involved in these languages, so as to discover the psychological foundations of their structure.

Boas, in the introduction of eighty-three pages, traces the significant social and psychological influences which have been factors in modifying phonal, articulatory and language complexes. His study brings out the fact that there is little correlation between language, material culture, and anatomical structure when these three elements are employed, respectively, to determine ethnic relationship between groups of people. A difference in physical type, and customs, is noted when the language is common; or one finds the anatomical type the same, but the language and the social customs at wide variance, and so on. This makes it fairly certain that sets of influences may act now in one direction and now in another. Boas's conclusion is that the biological unit is safest as being the most inclusive and permanent, since, obviously, anatomical structure reacts

more slowly to changes than do either social customs or linguistic forms.

Considerable discussion is given to the inherent nature of language forms, and attention is called to the very limited number of the possible phonetic elements that are actually employed in human speech. Boas holds that the influence which determines the particular group of phonetic elements that are used in a given language is their facility in articulation, since, all unconsciously, those phonetic elements are selected which make for the most rapid communication. All languages have a few phonetic elements in common, but each has some that are peculiar to itself. One tends to interpret the elements of a strange speech in terms of those phonetic elements with which he is familiar, and thus there arises always an error in placing correctly unfamiliar language forms. In this way one accounts for a fallacy that has frequently arisen, to the effect that primitive peoples are unable to differentiate phonetic elements. Different observers attribute to a group different forms of pronunciation, because of a personal error of observation. Boas finds no correlation between similarity in psychological traits of two peoples and their language structure, so that the morphological structure of a language is little related to the mental development of a people.

In the *Handbook* are presented also detailed language studies of the Athabascans, by Goddard; the Flenguit and Haida, by Swanton; the Tsimshian, Kwakuitl, and Chinook, by Boas; the Maida, by Dixon; the Algonquian, by Jones; the Siouan, by Boas and Swanton; and the Eskimo, by Thalbitzer. Thus there is made available some carefully prepared material for an exhaustive comparative Indian language study.

Bushnell (2) gives the results of an exhaustive study of twelve Choctaws, the remnants of a numerous people once living in the Bayou Lacomb region of Louisiana. A few artifacts were unearthed, which belonged to the prehistoric inhabitants. They indicate a relatively low state of culture, and indeed the present inhabitants in point of fundamental habits and customs have probably undergone but little change as the result of their associations with Whites for five or six generations. Their habitations are still crude, improvised shelters; their food habits primitive; their implements and forms of adornment simple and barbaric; nor do their forefathers seem to have given much attention to the spiritual or matters of spirit worship. Many of the original customs and beliefs still persist, such as the form of tribe and family organization, the institution of marriage,

customs associated with death and burial, the form of punishment for criminal offences. Bushnell found them still using their old games and pastimes, and there has persisted a firm belief in their historic myths (3) and superstitions. These relate to an account of the creation, the presence of sickness and evil, the origin of evil spirits, and many other myths having to do with the ordinary affairs of life. Suggestive of the simplicity and childlike character of their mental machinery, is the direct, uncritical and purely objective character of their explanations, which is in marked contrast with the symbolism of some of their neighbors and that of the northern Indians. The influence of their environment is directly apparent. The dense forests and swamps are regarded as the haunts of mysterious beings to whom they attribute all manner of personal injuries and unusual natural phenomena. Some of these beings are visible to the eye, the presence of others can be detected only by their sounds.

Eastman (5), himself an Indian, purports to give an analytical interpretation of the Indian mind, his religious nature, his concept of ceremonial and symbolic worship, his moral code and moral sense, and the subtle, spiritual, and ideal elements of his being. One is tempted to question, however, whether Eastman's Indian is not, like Hiawatha, more mythical than real; whether, indeed, he has not given us an æsthetic, highly ethical, and deeply spiritual, interpretation of a set of habits and customs, which was wholly foreign to the primitive Indian mind. Eastman tells us that rightly interpreted the Indian was a mystic, that he was always thinking of the deeper meaning of things, that to the Indian there was a spiritual and a physical mind, and that to the latter were relegated ceremonials, charms, incantations; affairs which had to do with personal safety, sickness, food, and other selfish interests. The spiritual mind deals only with the essence of things, and concerning the spiritual the Indian never spoke. Obviously then spiritual matters were wholly intuitive, and since he never related his thoughts concerning these matters, one could truly know only by inference whether the Indian felt them.

Eastman is writing doubtless of the Dakotas, since he pretends to speak from his own early experiences. These Indians believed they possessed a soul in common with animals, plants, and inanimate objects. They held to a future state but did not concern themselves as to its nature. We are told, they were logical thinkers on matters within their experience; that they were individualistic in such things as religion and war; and that they were fearless, death having no

dread, since life had value simply in the interest of family and friends, and when these interests demanded, one sacrificed his life gladly. The Indian was said to be courageous, as a matter of course, yielding neither to fear, danger, desire, or agony, it being disgraceful, only, to be killed in a private quarrel.

The one paramount mystic ceremony that the Sioux observed was the vapor bath, which was performed with great solemnity, and is said to have influenced the spiritual life of the partaker very profoundly.

Eastman's book is interesting reading. He has taken the precaution to say it does not pretend to be scientific, and indeed, it is of doubtful value as a contribution to our knowledge of the Indian mind.

Grinnell (7) has collected some legends relative to two sacred objects, and the mystic ceremonies connected with them, which the Cheyenne say have always belonged to their tribe,—the medicine arrows, and the sacred Buffalo Hat. With both these objects are associated also mystic culture heroes. The origin and purpose of the objects have to do with the warding off of danger, and the provision of food. In olden times, during a great famine, when the tribes were about to be stricken off, corn, buffalo and other game were brought by the mystic appearance of a strange old man and woman, who, however, remained with the tribe only a very short while, when they abruptly disappeared. Before leaving, they enjoined the tribe to certain observances, on penalty of a return of the famine should they lapse. Notwithstanding, through some oversight, the observances were not strictly kept and the threatened famine immediately followed. While away in search of food the Buffalo Hat was found and was brought into camp. Immediately it cast a spell which caused the buffalo and game to return, and the corn to grow. The origin of the medicine arrows is equally mystic. It is said that the hero who found the medicine arrows possessed rare spiritual powers. He could, for example, change his form to that of an eagle, a fox, a cloud, or simply vanish into vapor, and when fancy pleased return to his human form.

The Buffalo Hat and the medicine arrows have been cherished possessions of these tribes for generations. They afford spiritual protection; are talismans given them, they believe, by the spirits to help their people to health and plenty in time of peace, and in war to give them victory over their enemies. So long as proper reverence is given these relics, and the ceremonies associated with them are religiously observed, these protective gifts are helpful, but failure in

these matters has invariably led to misfortune, famine, and defeat by their enemies.

The Buffalo Hat typifies subsistence, the medicine arrows defence. The latter were medicine for men alone, the women might look upon them; the former was largely medicine for women. Grinnell (8) gives a detailed account of the ceremonies related to each of these objects, and the story of the capture of the arrows by the Pawnee in one of their wars. Here among a primitive race we thus find a form of symbolism which indicates considerable power of mental abstraction.

Swanton (II) reports, at length, on the Indians of the south central states. Unfortunately, most of his data are from secondhand sources, so obviously their value is correspondingly less. They are largely a collation of the reports of travellers and traders who visited this region in the early days.

In material culture the tribes, judging from these reports, were not far advanced, but there had developed among them a very strongly centralized form of social organization, and a fairly well organized mode of religious worship. The government consisted in a despotic control exercised by a centralized authority, known as the great chief, who ruled over the eight, or ten subsidiary chiefs of surrounding villages, and each such group formed an independent social unit. Now, in the central village of each group, there stood a temple for the worship of the great spirit, and within each temple an altar fire was kept constantly burning, a functionary being set apart whose exclusive business it was to keep the fire kindled and to see to it that it should never become extinguished. It is said that some of the villages did not have true temples, nevertheless the temple form of worship was a characteristic of the southern Indians. The temples were dedicated to the sun, and associated with worship in them was an elaborate ceremonial. Four or five days of fasting, at the least, and the use of emetics till the blood issued, was a necessary form of preparation; and a contrite submission and silent contemplation was the assumed attitude of the worshiper. To the temple the father always carried his first fruits. One passing the edifice, bearing a burden, must put it down and go through a form of exhortation to appease the spirit that dwelt within. Legend has it that the building of temples was commanded by a man and his wife who visited the people from the sun, and thus it is that all temples were dedicated to the sun spirit.

Belief in a kind of spiritism was universal with these people.

They peopled the universe with spirits, and the spirits formed a sort of hierarchy, with the sun at the head all-powerful and supreme. So far as is known, however, there was no belief in anything akin to a distinctly evil spirit.

With a social organization as complex as obtained among these Indians, it is not surprising to find evidences of a caste system. Social levels existed, based on an hierarchy of totemic clans. Property and individual rights were, however, generally respected. A medical function was also recognized, which, although not altogether free from magic, was far more highly specialized than among the Northern Indians. Polygamy extended to as many wives as a man could support. Wives were not held absolutely to faithfulness to their husbands and chastity among unmarried girls was said to be practically non-existent.

Freire-Marreco (6) has found evidences from a close study of the Mohave-Apache, of the Verde River, Arizona, which she believes controverts some teachings of many English anthropologists, to the effect that it is a fundamental characteristic of primitive mind to be mobbish. She discovered rather a loose, individualistic mode of life among these peoples, and this she throws into contrast with the strongly centralized and coherent social organization of some related tribes, the Pueblo of the Upper Rio Grande, New Mexico. Freire-Marreco is convinced that the determining factor in fixing the character of the social organization of a primitive people is not a natural mental bent, but rather the nature of the physical environment that encompasses them. Whether the obtaining of food, for example, is dependent on coöperative endeavor or the individual initiative of the members of the group; or whether, possibly, the nature of the environment is such as to compel or preclude coöperative effort, she holds, carries more weight in determining the mode of life of a people than their inherent mental make-up.

The Mohave-Apache are not so advanced in material culture as the Pueblo. They live in small camps, scattered here and there, two hundred, frequently, being spread out over an area of seven miles square. They have their subsistence by hunting and gathering wild fruit, and according to the Pueblo their manner of life is more like that of brutes than humans. In contrast the Pueblo are congregated into compact villages, two hundred being crowded together upon an acre of ground. They are agriculturists and carry on quite an extensive scheme of coöperative irrigation. A Pueblo spends his entire life in close proximity to the village of his birth, while the

Mohave-Apache wanders away hundreds of miles, as the presence or absence of food tempts him to move on. A corresponding difference is noted in the manner of internal organization. While the Mohave-Apache have no centralized form of control or machinery for coördinate effort, except a war chief who is without function save in war, the Pueblo village has a chief and council that exercise rather definite legislative and judicial control. Freire-Marreco takes as an illustration of the differences in practice of these forms of organization the annual spring festival dance, a ceremony of petition to the great spirit for a return of the vernal rains. Among the Mohave-Apache any one may start the dance and give it any direction that the impulse of the moment may dictate. The interest grows from day to day and other individuals and tribes join in from time to time, as they become possessed with the desire. With the Pueblo, on the other hand, it is radically different. This feast is definitely planned in advance, and the plans are submitted to the council for ratification. Not only is its character predetermined, but the date of its commencement and every detail of its procedure are thoroughly prearranged.

Here then are two forms of social organization strikingly different and it is held that the determining influence which has shaped them, respectively, is simply a matter of difference in general social morphology.

A form of social organization quite as loose as that of the Mohave-Apache obtained among the Eastern Cree and Northern Saulteau, reported by Skinner (10). Among these tribes each family formed a distinct social unit, which partook of the patriarchal character; the sole bond of coöperative unity appearing to lie in the family totem. Frequent changes in the location of camps, because of food scarcity, precluded the possibility of anything like a permanent village community. The families were ordinarily widely scattered, often as many as twenty miles intervening between any two, and under such circumstances, it is clear, even a rough coöperative system would necessarily break down.

Skinner offers extensive data regarding these tribes, their habits, material culture, and family and social customs. Polygamy formerly was common, and when a man married an older sister he usually took the younger ones also as they became old enough. Social purity among the unmarried was not held as a virtue, nor was fidelity of wife to husband considered a social necessity.

Animism and spiritism were highly developed, and there existed something in the nature of a spirit worship. At the proper age the

young man would repair to a place of seclusion in the forest, where, with fasting, and prayer to the great spirit, he awaited his vision, in which his future should be revealed to him, with its possibilities and limitations; and no one pretended to extend his activities beyond what his vision had vouchsafed. Conjury was practiced in the hunt, in love-making, in war, and to avenge a personal wrong. If one wished to harm an enemy, the spirit left its body, which then would be stretched out lifeless, whence it departed to injure or kill, by magic, whom it would. Animals, too, were believed to possess spirits as well as men, and their favor, it was thought, must be obtained if that species were to be taken by the hunter. Indeed, direct communication with the animal world was carried on by especially gifted individuals. To the bear, in particular, was attributed highly human powers, in that he was believed to understand any conversation that he might overhear. It is thus apparent that a very close kinship was felt with the animal creation.

There was some medical knowledge, but the physician must be one who was also highly skilled in magic. Idiots were believed to be possessed of evil spirits, so usually they were killed by burning at the stake, but no attention or treatment was accorded the insane.

On the Negro, only two scientific studies have been reported. Odum (9), in the one, has attempted to cover the entire field of the Negro's mental and social life, but, unfortunately, his data are only from observations and certain general interrogations. The present pressing need is for information regarding the Negro mind secured under carefully controlled conditions. Odum, however, reports to have experienced great difficulty in securing accurate data, for the reason that the Negro is naturally untrustworthy and secretive. It was seldom possible, he tells us, to get from an individual correct information regarding any important details. The negro is skillful in inventing plausible stories, and expanding upon minute details having no foundation in fact. To obtain acceptable data, it was necessary to make repeated inquiries from various sources and to check up results constantly. This fact, of course, is interestingly suggestive of the nature of the Negro's mental machinery.

Odum sums up the mental qualities of the Negro as: lacking in filial affection; with strong migratory instincts and tendencies; little sense of veneration, integrity or honor; shiftless, indolent, untidy, improvident, extravagant, lazy, untruthful, lacking in persistence and initiative, and unwilling to work continuously at details. Indeed, experience with the Negro in class rooms indicates that it is impossible

to get the child to do anything with continued accuracy, and similarly in industrial pursuits, the Negro shows a woeful lack of power of sustained activity and constructive conduct. Fear, sickness, and even stupidity are being constantly feigned to escape an unpleasant task. His mind works mechanically. He is fond of joining together euphonious words and phrases, with little regard to their meaning.

The Negro is said to love excitement. He is restless, bumptious, and sensuous. He will never work except when necessity compels. He has always been the subject of petty thieving, and Negroes often commit, unfeelingly, savage and ferocious crimes. His emotions are for the most part of the physiological type, with little objective control. Social purity, we are told, is unusual among girls who have reached adolescence, and infidelity among married women is not uncommon. Negroes possess little power to inhibit sensual feelings of any kind. They are gluttonous and drink liquors to excess. Anger of the epileptical, gesticulating, maniacal sort is easily excited, and a paralysis of fear sets in at the approach of death, at the presence of certain animals under peculiar conditions, and at unusual celestial occurrences; and an inherent terror of officers of the law is said to cause constant migrations.

Negroes are gregarious, but the social instincts of friendship, loyalty and emulation are little apparent. Other social instincts, however, they possess in a striking degree. They are proud, jealous, stubborn, assertive, covetous, egoistic. They are likewise reckless, assertive, impulsive, demonstrative, over-religious, fabalistic, and superstitious. Their crimes, Odum holds, are largely the expression of the animal instincts, which have been left to work themselves out unrestrained. On the other hand the Negro is imitative, adaptive and his protective instincts are strongly developed. While very primitive, therefore, in the majority of his traits, he possesses the possibilities of development under proper conditions of control.

The Negro child is characterized as psychophysical. He loves to sing, but cares little for instrumental music other than the banjo. He is fond of dancing and all types of motor activity of the grosser sort. He has a good memory, both auditory and visual, and up to the age of eleven or twelve his mind is bright and clear. In school the young child is alert, eager, attentive and interested, indeed, seems brighter than the white child of corresponding years, but with the oncoming of adolescence mental growth suffers arrest; the child becomes dull and stupid, and further development appears to be confined to the physical.

Odum speaks of Negroes as rather insensitive to pain. They go through surgical operations with relatively few fatalities and they convalesce rapidly. Negroes are immune to malaria, and yellow fever. Fibroid tumors among them are rare, and the sequellæ of syphilis and gonorrhea are much less pronounced than among whites. In connection with this relative immunity from disease, the report of Da Rocha's (4) 285 hospital cases of Negroes in an institution for the insane is interesting. He tells us that general paralysis, one of the sequellæ of syphilis, is extremely uncommon in the Negro race, in spite of the fact that a large proportion of both men and women have been afflicted with gonorrhea and syphilis at least once during their lives. Fixed delusions are rare, and epilepsy occurs very much less frequently than among whites. Senile dementia is found in about the same proportion, but Negroes are subject to the periodic insanities in greater frequency. It is interesting that among the Negro insane the women outnumber the men, whereas with whites just the reverse obtains. Da Rocha attributes this to the relatively greater stress of civilization which falls upon the Negro woman, rather than upon the man as in the dominant race, since upon her falls the burden of the family support. Negro women, also, were found to be more addicted to drunkenness than the men. Women are thus more exposed to the exigencies of social life; they succumb in larger numbers to its temptations, and break mentally more frequently than do the men.

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INDIVIDUAL AND GROUP EFFICIENCY

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In the following pages it is my purpose to review briefly the efficiency literature which has appeared during the last two years, and which admits of summary under the following heads.

1. *The Conservation and Increase of Vocational (Industrial-Commercial) Efficiency*, by means of scientific shop or business management.

In two lucidly written and aptly illustrated volumes, Emerson has presented the ablest exposition extant of the philosophy of efficient industrial management (9), together with a codification of the practical scientific principles involved (10). He recognizes that efficient shop management—which depends on the establishment of scientific analytical motion and times studies, of time equivalents for every operation or task, and the adoption of a standard service or labor equivalent for a given wage—cannot be instituted without a staff of consulting experts, consisting not merely of efficiency engineers and wage specialists, but also of “character analysts,” psychologists, hygienists, physiologists, bacteriologists and economists. While absolute standards for chemical, physical and electrical processes can readily be set and enforced, human beings must be rated, classified and treated as sentient, moral beings. Properly to administer men on efficiency principles requires the expert services of the psychologist, physiologist, physician and humanitarian. Indeed Emerson avers that, so far from being a purely engineering problem, the highest staff standards are psychological. “It is psychology, not soil or climate, that enables a man to raise five times as many potatoes per acre as the average of his own state” (9, p. 107). Moreover, the science of industrial efficiency is an idealistic philosophy, and not merely a cold, brutal, calculating scheme for oppressing labor—a fact which has been emphasized by Brandeis (3), who argues that there is no inherent incompatibility between the claims of scientific management and the rights of organized labor. Scientific management means the “square deal” for the wage-worker; shorter hours, without “speeding up”;

more regular employment and greater security of tenure; proportionately higher financial returns; instruction for the inefficient; and a heightened feeling of self-respect and interest in the work.

That the problem is in part both psychological and pedagogical is likewise emphasized by Gantt (the author of the "bonus system" of compensation, which provides extra pay for work satisfactorily done in a specified time: piece work for the skilled and day work for the unskilled). He (11) recognizes the need of a factory pedagogue, who must be a keen analyst as well as an efficient teacher. His duties will consist in instructing the workmen, in training them to form efficient vocational habits, and to acquire habits of industry and willing coöperation. The policy of the past was to drive or force the wage worker: in the future it must be to teach and lead. The whip must be replaced by stimuli derived from skilled instruction, merited promotion, and a deserved bonus.

That the new science of industrial efficiency cannot justify itself solely by its economic fruits, but must also be judged by its ultimate physiological and social effects upon the workers, is emphasized by Goldmark (12a), in an able and comprehensive digest of the literature bearing on "Fatigue and Efficiency" in industry. (The best psychological researches, unfortunately, receive no mention in this voluminous compilation). Owing to the strong tendency to exploit the workers which will exist under any kind of management, the interests of racial efficiency need to be protected by adequate labor legislation. Such legislation must, in the first instance, be based on scientific studies of fatigue. Scientific shop management will have to conform to the physiological laws (and psychological, forsooth) underlying the industrial life.

The psychological and pedagogical principles which may be utilized to increase business efficiency receive their most explicit formulation by the psychologist. Scott (19) considers that human efficiency is not solely dependent on inherent capacity, but on a number of mental factors which it is possible intelligently to utilize by becoming familiar with the principles of business and educational psychology. Scott discusses a number of psychological principles which can be practically applied to increase business efficiency, such as imitation, competition, loyalty, concentration, wages, pleasure, habit-formation and relaxation.¹

2. *The Conservation and Increase of the Efficiency of Eminent Talent*, by the scientific, impersonal, objective study and control of

¹ See special review in a forthcoming number of the BULLETIN.

the conditioning factors of scientific, literary and artistic eminence, fame or genius.

After a lapse of seven years Cattell (5) has repeated his statistical group study of the most eminent American men of science. He has undertaken a painstaking analysis of the changes which have taken place during these years, in the relative rank, and in the sectional, state, city, institutional, professional, sex and age distribution of scientific workers throughout the country. Among the more important furthering environmental factors are geographical location or institutional affiliation, and professional position (career). Massachusetts and Connecticut continue to maintain their scientific pre-eminence, while three-fourths of the leading scientists are in the teaching profession—only three medical men not teaching in medical schools find positions in the distribution.

Cattell's explanation of the fact that only 18 of our 1,000 leading scientists are women, as due to an "innate sexual disqualification," is rejected by Hayes (13) and Talbot (22), who find the cause in woman's social and educational inequalities and handicaps.

Woodworth (32) finds six or seven factors responsible for the fact that the average American standard of scientific productivity is below the European level, of which the most important is our rapid national, industrial, economic and educational expansion. The fields of industrial, economic and educational promotion, organization and administration offer higher financial and social rewards, and have thereby attracted our best minds.

But the fact that Massachusetts and Connecticut have produced far more eminent men in proportion to the general population than Virginia, North Carolina or South Carolina cannot be accounted for, according to Johnson (15), on Wood's hypothesis of the dominance of heredity over environment. It is due, as shown by the financial school budgets of these states, to the greater expenditure of money for educational purposes in New England than in the Southern states.

On the other hand, the Whethams (29), from an historiometric study by the space method of one fifth of consecutive names in the British Dictionary of National Biography, reach the conclusion: that able parents have able children, provided "like-to-like" matings occur, as is found to be the case among the English administrative and peerage classes. The comparative inferiority of the progeny of artistic, literary or scientific men is due to the fact that these classes of men form chance alliances: they do not mate with their

likes. The "like-to-like" matings thus subserve an important evolutionary function: they create a super-class in the general population.

In this connection note may be made of Stern's recommendation (20) for the conservation of incipient talent, that special-talent classes and a special pedagogy should be provided for super-normal children; and of Kiernan's contention (17), that the genius is a child potentially developed, biologically and psychologically, that he must be provided with a favorable environment, particularly during the psycho-biological stress periods, and that his potentialities must be aided by all-round development and not by one-sided stimulation, which will tend to upset the instable bio-psychological mechanism.

One sympathizes with the facts, which are emphasized and deplored in current discussions of the super-child or super-adult, that we lack at present any satisfactory standard of genius (the Whethams, 29), that misconceptions of precocity are widespread (O'Shea, 18), and that the necessity has not always been recognized of clearly distinguishing between merit and fame in historiometric discussions (Browne, 4). Wood's claim (31) that historiometry (the objective statistical treatment and relative grading of the fame of historical characters) can be reduced to an exact science is denied by Browne (4), because this would-be science does not possess any historiometric functions of constant value. This is particularly true of the adjective method (the ratio of the number of adjectives of praise to dispraise), which does not give a constant differential value to adjectives of different qualitative importance. Browne considers the adjective method inferior to the space and reference-frequency methods.

3. *The Conservation and Increase of Racial Efficiency*, through eugenical matings, and the elimination of the unfit by sterilization or segregation.

Among the significant studies of the hereditary factors involved in dependency, defectiveness and delinquency are the family history investigations of Davenport (7) and Goddard (12). Davenport voices his disapproval in no uncertain terms ("Oh, fie, on legislators who spend thousands of dollars on drastic action and refuse a dollar for an inquiry as to the desirability of such action!") of the legislative efforts to eliminate the unfit by the enactment of compulsory sterilization or anti-procreation laws. He favors the milder remedy suggested by segregation.

Notice should be taken of an attempt to standardize the methods of collecting, charting and analyzing hereditary data (8).

4. *The Conservation and Increase of the Mental Efficiency of Indi-*

viduals, by means of the removal of physical defects (*orthophrenics through orthosomatics*),¹ or by the administration of proper pharmacological or dietetico-dynamic agents.

Wallin has measured by serial psychological tests given throughout a school year the euthenical effects of oral treatment and prophylaxis on the working efficiency of school children—a control squad of 27 pupils (26). The contention is made “that the desirability of establishing dental clinics in the public schools for free inspection and treatment should present itself to the taxpayer as a simple business, if not a humanitarian, proposition—the paying of proper dividends on the capital invested in the schools,” the elimination of preventable waste.

The elaborate series of psychological measurements of Hollingworth (14) of the influence of caffeine on various mental and motor processes and on the sleep and general health of a control squad of 16 male and female adults will serve as a model for similar scientific investigations in the future of the somato-euphoric and psycho-orthogenic effects of the use of various drugs, foods, dietaries, etc. His results indicate that mental efficiency may be heightened, without reactionary after effects, by the administration of judicious doses of caffeine in its pure form.

Closely related is 5. *The Conservation and Increase of the Working Efficiency of the School Population*, of normal or abnormal pupils, in elementary, higher, special, rural, urban or state institutions, by the scientific study and control of the processes and agencies which directly or indirectly minister to psycho-pedagogical proficiency.

Perhaps we may agree with the eugenist that permanent racial improvement will come only by improving the inborn qualities of men (considered under 3, above). At the same time, we are obliged to deal with conditions as we find them; after the human misfits have been born, we must bring them to maximal efficiency by improving the environmental factors. The most important euthenical agencies are the schools and the training or corrective institutions. And it is gratifying to observe that in no field of modern enterprise is the

¹ I would suggest the use of the word *orthophrenic* to designate any process or regimen by means of which deviate mentality may be made to function aright; the word *orthosomatic*, to designate any process or regimen by means of which any mal-functioning bodily organ may be made to work normally; and the word *orthogenic*, as the generic term to apply to any orthophrenic or orthosomatic processes of restoring deviate human nature to normal functioning. All these processes are essentially and specifically pedagogico- or medico-corrective. Effectually to apply them presupposes the development of a number of highly technical orthogenic sciences.

efficiency problem receiving greater scientific study than in the realm of education. Here the major studies have been concerned with the attempt to determine more accurately than was formerly the case the current rate of progress through the grades (thus Blan, 2; Keyes, 16; Strayer, 21); with the introduction of effective schemes of varying the rate of progress through the grades, so that the needs of the individual pupil may be properly conserved (thus, *e. g.*, the Mannheim system of grade organization; Van Sickle, 25); with the attempt to differentiate curricula, so as to render them sufficiently varied to meet the needs of all types of exceptional children (witness the recent organization of special classes, occupational courses, elementary industrial, trade and continuation schools); with the effort to establish by diagnostic, psychological tests, developmental age-scales of personal, social, industrial, motor and intellectual traits for retarded, average and accelerated pupils, so that pedagogical or vocational tasks may be fitly adjusted to the level of functioning of each child (thus Wallin's plan for gauging the efficiencies of a colony of epileptics, 27); with the task of establishing pedagogical efficiency scores, criteria or scales, by which to make an impersonal, objective determination of a child's proficiency in various branches of the curriculum, such as English composition (Thorndike, 23), handwriting (Thorndike, 24; Ayres, 1); and the fundamental operations in arithmetic (Courtis, 6); with the effort to determine the functional efficiency of various methods of teaching, such as the incidental or drill method of teaching spelling (Wallin, 28, who fails to substantiate the claims of Rice and Cornman, and who shows by tests that spelling efficiency can be increased by the utilization of a psychologically justifiable drill technique); and with the attempt to determine the best age at which to enter children in the schools (Winch, 30, who finds that there is no intellectual advantage in entering children at three rather than at five in English schools).

This survey of the literature on human efficiency—necessarily all too brief relatively to the importance of the subject—should leave a three-fold impression in the mind of the reader: first, that the problem of conserving and increasing the efficiency of the race is many-sided, presenting many varied and complex phases; second, that the problem is soluble only through the development and application of a distinct scientific technique, sufficiently varied and specialized to fit any phase of the problem; and, third, that the problem is too large to be solved by any one type or class of existing investigator, but that it requires the development of a new type of scientific investiga-

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NATIONAL PSYCHOLOGY

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National psychology, as popularly written, suffers from a variety of defects. Its aim should be, evidently, first to determine the facts of national behavior, and then to seek an explanation of these facts in the national environment and heredity, and in the social transmission to later generations of what has been acquired in the history and experience of the nation. To work back from the behavior of a nation to its native traits is no easy task, and to infer a difference in national temperament or mentality from a difference in the behavior of two nations is illegitimate unless the past experience and training of the two nations are evaluated. It is a common defect of national, or international psychology to ignore this difficulty and to jump at

once from differences in behavior to differences in national traits. No less a defect appears in the description of national behavior; for those who compare nations seem to have an irresistible tendency to seek for contrasts, which leads them to hasty generalizations as to the facts of behavior. The great individual differences which exist within any nation are neglected, and the nation is spoken of as if all its members behaved in the same way; and, further, no note is taken of the inconsistencies that appear in a nation's behavior when examined in different particulars. The whole subject, whether in respect to the facts or in respect to their interpretation, is in a most unscientific and unsatisfactory state.

The two books here noticed are not worse than others on national psychology. That of Low (1) is rather to be called unusually good. It is a fair-minded attempt to understand the character of the American people as revealed in their political and economic behavior, and follows their history from the settlement of the country to the present. The author's main contention is that the American character is essentially British, modified by the conditions of life in the new country but not by the non-British elements of the population. These last have been assimilated by a process which is sketched as follows. At any given time, the newly arrived immigrants find places near the bottom of the economic scale, so that the contrast between native Americans and foreigners is equivalent to a contrast between higher and lower social classes, and the effort to rise in the social scale resolves itself into an effort to become Americanized. A sort of polarity pervades the population, and every one strives away from the foreign pole and towards the native pole. The older stock does not take on the ways of the newer arrivals, but these take on the ways of the older stock to such an extent as to become indistinguishable from it in the second or third generation.

Meanwhile, however, the national character does not remain unchanged, but responds to changing conditions by the development of new traits which are transmitted from father to son and outlive the special conditions that gave rise to them. The American's "disrespect for law"—a generalization which, by the way, needs to be tested by a much broader examination of the facts than the author attempts—was a natural response to the conditions of pioneer life combined with the absence of a governing class; but, originating in this way as a reaction to the environment, it was so bred into the bone as to become a hereditary trait. Here, it will be seen, the author is on shaky biological ground; and, in fact, he nowhere shows

a sense for the biological side of his theme. But his book is valuable for its social analysis, and for its study of the mental and moral traits that have been prominent in American history.

André (2) is concerned with the mental and moral traits of the Spanish people. He raises the question, why Spain lags behind in the march of modern progress, and seeks his answer in an imperfect adaptation to modern requirements of the Spanish character and ideals of life. According to him, the Spanish people are lacking in industry, energy, initiative and scientific curiosity, and have not caught the spirit of work which is the life of the progressive industrial nations. How far this lack of energy and industry is inherent in the national heredity, how far it is due to climate, how far to poverty and insufficient nutrition, and how far to custom and traditional ideals, the author does not seriously set himself to decide, though he mentions all of these factors and lays stress on the last two. The book is a jeremiad preached by the author to his countrymen, and certainly exaggerates the differences between the Spanish and other peoples. It forcibly calls attention to an interesting problem in national psychology, without contributing much of scientific value either in the way of facts or in their analysis. It abounds, however, in interesting ethical discussions.

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SPECIAL REVIEWS

THE STUDY OF PRIMITIVE RACES

Vorschläge zur psychologischen Untersuchung primitiver Menschen.
Beiheft zur *Zsch. f. angew. Psychol. u. psychol. Sammelforsch.* 1
Theil. Leipzig, 1912. Pp. 124.

These "Vorschläge" form the first of a series of contributions on the psychological study of primitive man. It is intended to provide instructions in simple tests for all those, such as missionaries, teachers of native schools, officials, doctors and the like, who come into contact with men in primitive stages of culture. The preface suggests that all users of the study and others interested ally themselves with the *Institut für Angewandte Psychologie*, which will furnish descriptions and illustrations of the tests, preserve the data acquired and offer the *Zeitschrift* as the organ for the publication of the results.

The work consists of a series of 11 reports by four men on special topics, with an introduction and supplement by a fifth, making a total of 124 pages.

Twenty-seven pages are given to the Introduction by Thurnwald, in which he discusses the problems of ethnopsychological investigation. The study of man involves not only his physical side but also his mental side and his relations to his environment, both natural and social. These separate aspects of men are so interwoven that no one of the problems can be solved independently of the others. In the past the psychological aspect has been the most neglected. In the questionnaires in which psychological questions have appeared, the answers have been of little value on account of the vagueness of the questions and the lack of skilled investigators.

The infinitely manifold phenomena of social and cultural life are merely the varying effect of different arrangements of relatively few simple elements, factors and conditions. The working of these elements in the social process, which is mediated through the psychic factors, is a constant. It is necessary first to seek out these elements and study them rather than the complex structures which they form,—this is the duty of the ethno-psychologist. For this purpose the study of certain individuals of a group is of more value than a study of the general culture of a community. If one wishes to get an

average value for some quality of a group, he may observe a few typical cases from that group, keeping in mind the fact of individual differences and the difficulty of isolating the subject for experimental purposes. Since today there are no ethno-psychological norms, these must be built up from just such tests as the present collection represents. When such norms are established, the further investigation in this field will be comparatively simple.

Thurnwald points out the following sources of error which the use of tests on primitive peoples involves: (1) The influence of the experimenter will be a big factor, especially where the problems are put into the hands of untrained observers. Such a one must have not only a knowledge of experimental methods but he must be endowed with infinite patience to perform preliminary experiments, in order that the test may be rightly understood. (2) Exact work will be impossible where the laboratory is a clearing in the forest or perhaps a native's hut. (3) There will be an almost complete lack of apparatus on account of the difficulty of transportation, weather conditions, lack of electricity, etc. (4) The greatest difficulty will be the lack of comprehension both of the general attitude toward the experiment and of the means of expression. The use of an interpreter will be of doubtful value, so that the tests must be so constructed as to demand the smallest possible amount of speech.

The ultimate aim of the tests is to show not merely differences between the primitive peoples and ourselves, but to draw distinctions among the primitive social groups, which shall be of practical value to all who are brought into political or economic relations with them.

The *optical space sense* is discussed by Tschermak in 13 pages. No great differences are to be expected in this field, which is based on relatively simple processes, and which, so far as we can judge, is the same in the higher animals. An accurate study of this sense would require considerable apparatus, but certain tests have been selected which require very little more than objects of nature. These are tests to determine the knowledge of the directions of space, accuracy of the judgment of the vertical and horizontal directions, visual acuity, visual illusions, binocular vision, using the simple stereoscope and various tests for detecting squint.

Guttmann, who contributes the report on the *color sense* in 12 pages, considers this the most difficult sense for the ordinary individual to test. It presupposes a knowledge of one's own color sense, of the various forms of color-blindness with their symptoms, that is,

total color-blindness, partial color-blindness, color weakness and the various transition forms. It presupposes a knowledge of the diagnostic methods and control of the technique of these methods. The lack of color terminology in the natives makes judgments of colored yarns or papers impossible, except the judgment of likeness and difference. For the various tests on color vision, Guttman recommends Nagel's diagnostic tables, on account of their simplicity and cheapness. By these tests one can determine the frequency of color-blindness and of the different forms of color-blindness compared with the cultured races. Among primitive peoples there should be a good opportunity for the study of heredity of the defects of color vision. All visual disturbances should be a large social factor among people with whom almost every vocation depends on the sense of vision and where no corrective means are at hand.

Lipmann on *memory and comprehension* considers the function of the memory tests not to determine general laws of memory which have been worked out under more favorable circumstances, but to make tests that shall show the absolute amount of material retained by different races or groups under similar conditions. He considers it more practicable to give one test only of each kind to each individual, and to compensate for this by testing a large number of individuals. This plan must be adopted on account of the scarcity of available material, and on account of the effect of practice, when the same material is used. The series of tests consists of memory for simple tones, colors and weights, and tests to determine the types of memory. In the tests for associative memory nonsense syllables are replaced by form-color, German and native words, and simple words and objects. The material for all of the tests is obtainable from the *Institut*.

The tests on *suggestion*, also by Lipmann, are introduced by a series of questions to be answered by the investigator concerning the part played by suggestion in the daily life of the people. Then follow a number of simple tests under the heads of suggestion of perception, of memory, hypnotic suggestion, auto-suggestion, and the various combinations of these forms.

The study of the *time sense* by Vierkandt and Stern consists of 17 series of questions relating to the method of telling the time of day, the method of recording the time in the past, the application of time measurement to practical purposes, how closely small intervals of time can be judged, etc. A few simple experiments with the metronome are suggested.

Vierkandt contributes a series of 12 questions on *counting*, as to the methods of counting, the existence of collective words like dozen, score, and the like, and the knowledge of the number of ordinary objects such as the fingers, teeth, etc. All of the questions must be answered from the general observation of the student.

Stern and Meinhof report on *expressive movements and speech*. Concerning the former the aim is to discover whether expressive movements are constant for the same emotional state and whether these movements correspond to those of cultured races. The questions on speech relate to the presence of the different grammatical forms such as adverbs, interjections, etc., and of forms of speech peculiar to certain classes of people, as workmen, or priests. All are questions to be answered from general observation.

The next four sections, all of them of the questionnaire type, are by Vierkandt. The section on *drawing and art* gives instructions for studying the drawings common to the natives and for obtaining drawings from simple models. Attention is given to their knowledge of perspective, angles and position of objects. This section also contains a series of questions on the native songs, dances and stories. The section on *convictions and manner of thought* considers the nature of the native interest in things, whether it be of a theoretical or practical sort, their tendency toward lying and whether it be unconscious or toward definite ends, the nature of their belief in myths, spirits, etc. The *sociology* of the native to which 12 pages are given makes up the tenth section. It consists almost entirely of questions concerning the leaders of groups, social stratification, the life and training of the children, and their relation to their parents and to each other. There are two groups of questions on forms of play, ten on family and altruistic relations, several on moral ideals and conditions of immorality. Then there is a long series of questions on the variation in customs, their source, the influence of neighboring and foreign peoples upon the native customs. Section 11 deals with the *native philosophy*, the ideas of the nature of matter, of death, immortality, their explanation of disease, etc.

In a supplement Thurnwald points out further the difficulties attendant upon the use of the preceding tests. Probably the greatest difficulty is that of the language, the fact that the greater part of the information must be obtained from conversation with the natives. This difficulty can be overcome only by years spent among the people. Success or failure depends on the investigator; the outlines given can only point out the way and suggest the line of study, and the value

of the data obtained will be in proportion to the ingenuity and originality of the student.

This *Beiheft* contains neither a short cut through the difficulties of ethno-psychological investigations nor an escape from them. But by very simple experiments and by short, explicit questions it aims to have the material take some definite form. Only in this way can the questionnaire method produce a mass of data which can be presented in a statistical form for comparative study. For this one reason alone the monograph should be welcomed by all those interested in a scientific study of social problems among primitive people.

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THE MIND OF PRIMITIVE MAN

The Mind of Primitive Man. FRANZ BOAS. New York: The Macmillan Co., 1911. Pp. x + 294.

This book contains the lectures delivered by the author before the Lowell Institute and the National University of Mexico, 1910-1911. It is not often that so small a book represents so much maturity of scholarship and so extended research. The lectures were a revision and enlargement of some articles published in various journals at different times. There are altogether ten chapters, one being a short summary of the first eight. The book is peculiarly destructive to popular and scientific theories about primitive people. In fact it may be said right at the beginning that according to the author there is no primitive mind; there is just mind and that is the same in all essentials wherever it is found in the genus *homo*. The outcome of the book is something quite different, however, from destructive criticism. While it shows the untenableness of most current views of primitive and savage peoples and so clears the field, it is most constructive in showing how trustworthy results may be won and where the field lies that needs most working. The book marks the close of the period in the science of anthropology for hasty generalization and unwarranted speculation. The spirit of optimism and of respect for all human quality is its dominating note; it tends on every page to wholesome-mindedness.

Under racial prejudice the assumption that achievement by a race is evidence of aptitude is examined and rejected. Emphasis is laid (p. 7) upon the carrying of ideas and inventions from one race to another. It is not greater national endowment but better chance

that accounts for achievement. The period of cultural history is very short in comparison with the history of the race (p. 9). Ease of diffusion explains the rapid rise in Europe (p. 13). He holds that "the variations in cultural development can as well be explained by a consideration of the general course of historical events without recourse to the theory of material differences of mental faculty in different races."

In the chapter on influence of environment the problems set are: "the distinctions between races" and "distinctions between the social strata of the same race." Given traits appear more frequently among some races than among others; the "varieties that constitute each race overlap." This overlapping is greater with some traits than with others, and some traits do not extend to all races. The author favors the influence of environment rather than that of selection, pointing to his and Bowditch's work in comparing the children born in America with their European relatives. This is restricted by the "assumption of a strictly limited plasticity." The factors that impinge upon this plasticity are "change of nutrition and mode of life," "conscious selection," and "crossing." The study here turns upon domesticated animals.

"Articulate language, the use of implements and the power of reasoning belong to all members of the human species as opposed to the higher animals." "Hereditary mental faculty was not improved by civilization." Between primitive and civilized man there is the difference only of frequency of occurrence for given traits. The power to inhibit impulses, to give attention and to reason clearly come out upon different occasions, but all types have them. The present types of race are older than languages and each type has doubtless produced many languages. There are common classifications and formal elements in all languages. The development of language is dependent upon thought, not thought upon language—a conclusion by no means well supported.

Under the universality of cultural traits, it is said, "We may therefore base our further considerations on the theory of the similarity of mental functions in all races," and "much more detailed similarities in thought and action occur among the most diverse peoples." Four current views are offered: first, similarities appear in similar types of environment; second, common customs and beliefs are "an old heritage derived from the earliest times"; third, some have tried "to isolate the most generalized forms of similar ethnic phenomena"; and fourth, similarities are to be explained by "analysis

of mental processes." Under the first is allowed that analogues of culture are found among a vast variety of peoples. But customs prevail (p. 159) outside of suitable environments where they may work injury. Parallel and independent cultures may have arisen. Inner growth of a race and dispersion of culture both need consideration. "And we may infer that the simpler the observed fact, the more likely it is that it may have developed from one source here, from another there" (p. 192). In regard to the evolutionary point of view, "serious objection may be made against the assumption of the occurrence of a general sequence of cultural stages"; "we recognize a peculiar tendency of diverse customs and beliefs to converge towards similar forms." Development is not from simple to complex, but rather is there an intercrossing of two opposite tendencies—one, from the simple to complex, and the other from the complex to the simple.

Some traits of primitive culture are, (1) conditions of objects are often considered as independent realities; (2) classifications in language never rise into consciousness, while others do; (3) object and attribute are treated differently; (4) power of will and motion are identified as one; (5) the wide inclusion of blood relationships in the incest group; and (6) the perceptions of the senses are excellent and the power of logical interpretation is deficient. This difference the author regards as due to the traditional ideas current in the race and not to deficiency in mental endowment. The difference between primitive and civilized man lies in the character of the traditional material with which new perceptions are assimilated. An understanding of the myths is the keynote of primitive society. This accords with the general tenor of the book, that it is tradition and not morphological character that differentiates races and the primitive man from the cultured. "Any one familiar with primitive life will know that the children are constantly exhorted to follow the example of their elders, and every collection of carefully recorded traditions contains numerous references to advice given by parents to children, impressing them with the duty to observe the customs of the tribe" (p. 240). Here the direct influence of education points in the same way as the general treatment of the book, that the differences among men are chiefly due to environment as hindering or aiding in the spread of culture, that these differences do not extend below the level of custom and belief, and that customs and beliefs have no considerable selective power upon the races of men. The chapter at the close upon the race problems in America carries out the argument

of the book. America presents no entirely new situations and its problems are being met in much the same way as race mixtures have been met in the past. Prejudice is not going to hinder permanently the amalgamation of the races and there is no good reason for regarding the negro as inferior. Genius is only a more rare occurrence in this race than in his white neighbor. His closing sentence deserves emphasis: "We should learn to look upon foreign races with greater sympathy, and with the conviction, that, as all races have contributed to the past cultural progress in one way or another, so they are capable of advancing the interests of mankind, if we are only willing to give them a fair opportunity."

T. L. BOLTON

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BOOKS RECEIVED DURING SEPTEMBER

- GODDARD, H. H. *The Kallikak Family*. New York: Macmillan Co., 1912. Pp. xv + 121. \$1.50 net.
- HRDLÍČKA, A. *Early Man in South America* (Bureau of American Ethnology, Bulletin 52). Washington: Gov. Printing Office, 1912. Pp. xv + 405.
- KEMMERICH, M. *Propheteiungen: alter Aberglaube oder neue Wahrheit?* Munich: A. Langen, 1911. Pp. 435.
- HACK, V. *Das Wesen der Religion nach A. Ritschl und A. E. Biedermann*. Leipzig: Quelle und Meyer, 1911. Pp. 56.
- JONES, E. *Der Alptraum in seiner Beziehung zu gewissen Formen des mittelalterlichen Aberglaubens*. (Deutsch von E. H. Sachs.) Leipzig und Wien: Franz Deuticke, 1912. Pp. 140. M. 5.

NOTES AND NEWS

DR. MADISON BENTLEY, assistant professor of psychology in Cornell University, has accepted a professorship of psychology at the University of Illinois.

DR. H. P. WELD, of Clark University, has been called to an assistant professorship of psychology at Cornell University.

DR. GEORGE F. ARPS has been called from the position of assistant professor of psychology at the University of Illinois to a professorship of psychology at Ohio State University.

DR. W. F. BOOK, professor of psychology and philosophy at the

State University of Montana, and for the past two years instructor in the summer school of Columbia University, has accepted a professorship of educational psychology at Indiana University, to succeed Dean W. A. JESSUP, who goes to the State University of Iowa.

PRENTICE REEVES, A.B., of the University of Missouri, has been made instructor in psychology at Princeton University.

THE present number of the BULLETIN, dealing with race and individual psychology, has been prepared under the editorial care of DR. H. L. HOLLINGWORTH, of Columbia University.

PROFESSOR ROBERT H. GAULT, of Northwestern University, has been advanced to the position of managing editor of the *Journal of Criminal Law and Criminology*, the official organ of the American Association of Criminal Law and Criminology.

JOHN MADISON FLETCHER, PH.D., has been appointed assistant professor of experimental and clinical psychology at the Newcomb College School of Education, Tulane University.

THE following items are taken from the press:

CARL P. BOCK has been made assistant in experimental psychology at the University of Missouri to fill the vacancy created by the resignation of A. P. WEISS, who has accepted an instructorship in Ohio State University.

PROFESSOR E. C. WILM has been called from Washburn College to the chair of philosophy and psychology at Wells College.

RUDOLF PINTNER, PH.D. (Leipzig), has been appointed professor of psychology and education at Toledo University.

